

# **SYSTEMS AND METHODS FOR COMPENSATING FOR DIM TARGETS IN AN OPTICAL TRACKING SYSTEM**

## **ABSTRACT OF THE DISCLOSURE**

5           A system and method are provided for controlling an optical imaging system  
capable of providing an image of a target. The system includes a reflector, an optical  
amplifier and a tracking device. The reflector is capable of reflecting light  
representative of the image provided by the optical imaging system. In addition, the  
reflector is capable of being adjusted in at least one direction based upon movement  
10 of the image provided by the optical imaging system. The optical amplifier is capable  
of amplifying an intensity of the light reflected by the reflector with a variable gain  
based upon the intensity of the reflected light. And the tracking device is capable of  
receiving the light from the optical amplifier. As such, the reflector can be driven to a  
position in at least one direction based upon an image of the target represented by the  
15 light received by the tracking device.